PLACE

PLATFORM OF LABORATORIES FOR ADVANCES IN CARDIAC EXPERIENCE

ROMA
Centro Congressi
di Confindustria
Auditorium
della Tecnica

9ª Edizione

30 Settembre
1 Ottobre
2022

Fibrillazione atriale: novità tecnologiche per il trattamento ablativo

OCCLUSION TOOL SOFTWARE DEL SISTEMA KODEX-EPD PER LA VERIFICA DELL'OCCLUSIONE DELLE VENE POLMONARI NELLE PROCEDURE DI CRIOABLAZIONE, 1 ANNO DI FOLLOW-UP CON MONITORAGGIO CONTINUO

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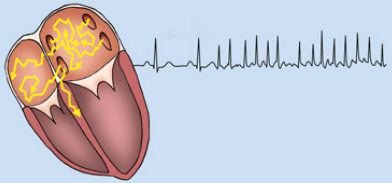
Background

The RACE-AF trial

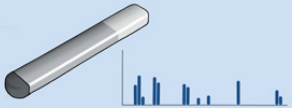
RACE AF

RANDOMIZED COMPARISON	PULMONARY VEIN ISOLATION	MANDATORY REASSESSMENT

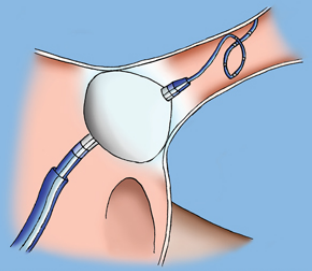


PAROXYSMAL ATRIAL FIBRILLATION

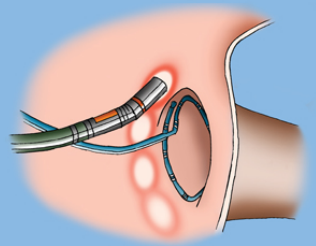
98 patients
399 pulmonary veins



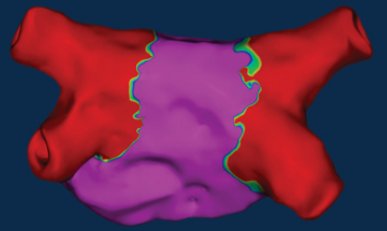
ICM implanted >30 days prior to PVI



SECOND-GENERATION CRYOBALLOON



CONTACT-FORCE SENSING RADIOFREQUENCY

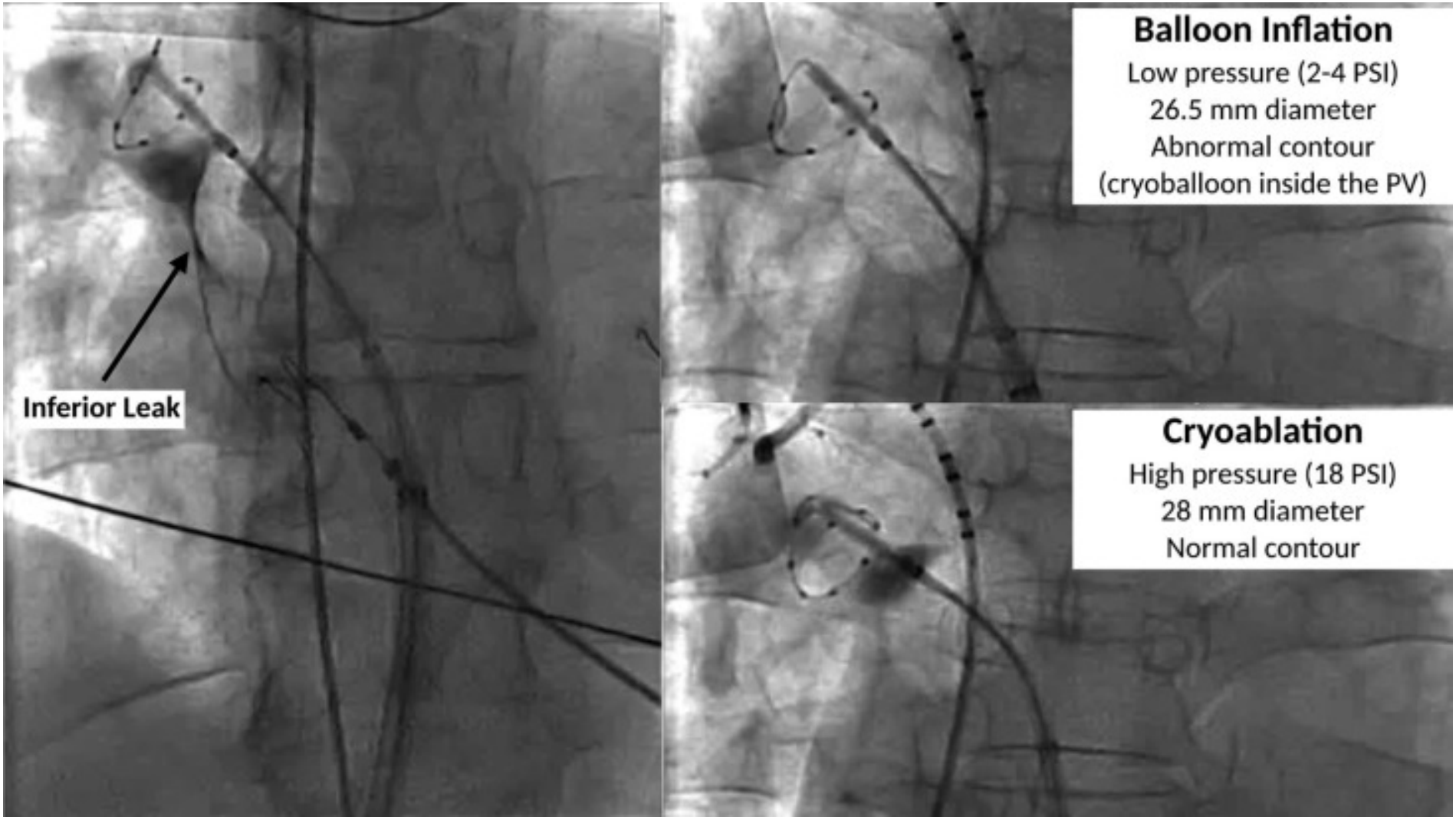


NO DIFFERENCE in **PVI DURABILITY** or **AF BURDEN**

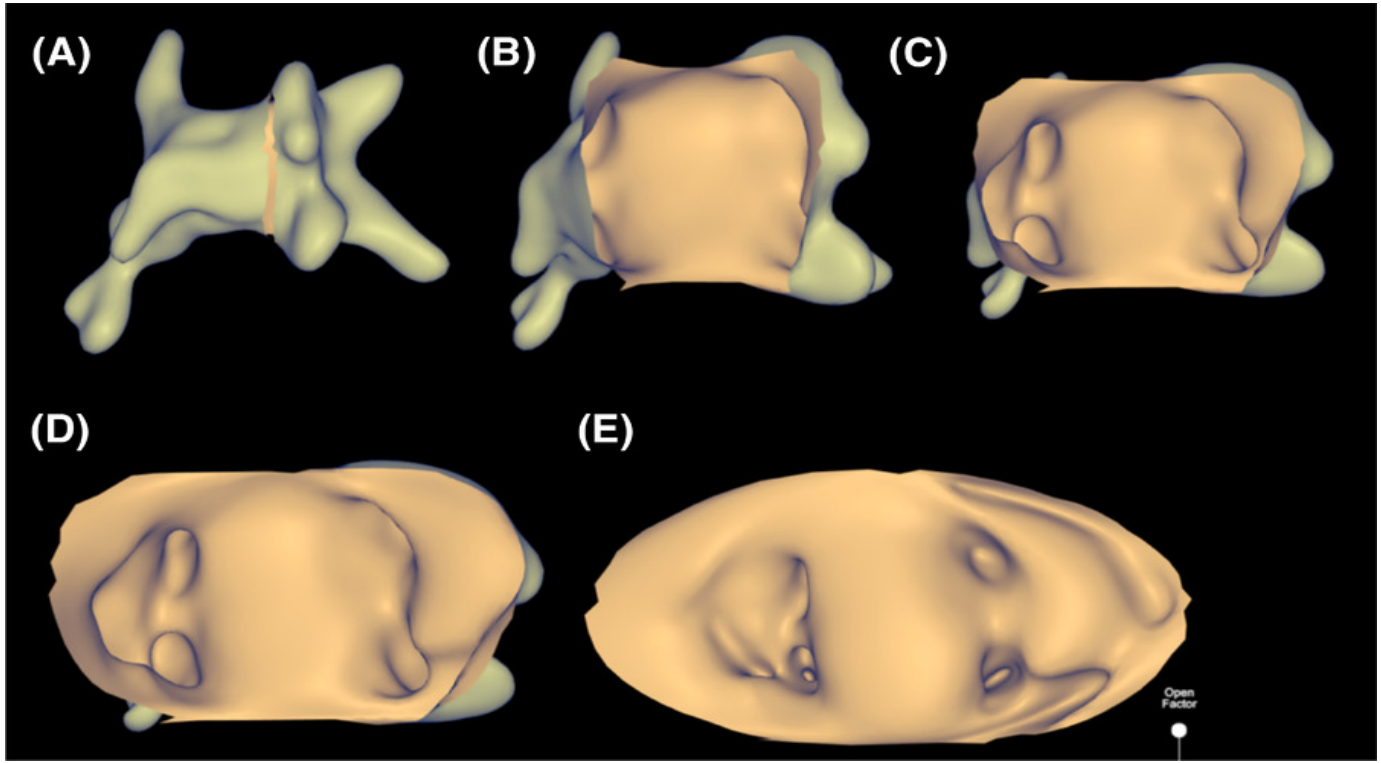
Durably isolated pulmonary veins:
76% vs. 81%*

Median AF burden reduction:
99.9% vs. 99.3%*

*after 4-6 months (RF vs. cryo, NS)

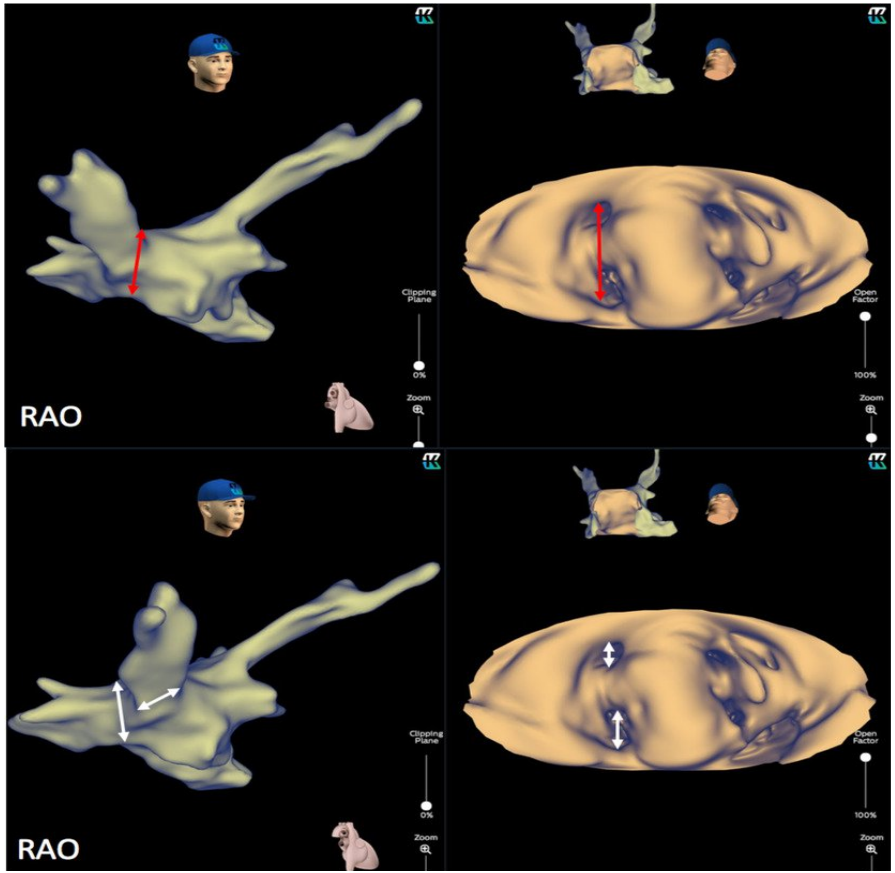

Inferior Leak
Balloon Inflation
Low pressure (2-4 PSI)
26.5 mm diameter
Abnormal contour
(cryoballoon inside the PV)
Cryoablation
High pressure (18 PSI)
28 mm diameter
Normal contour

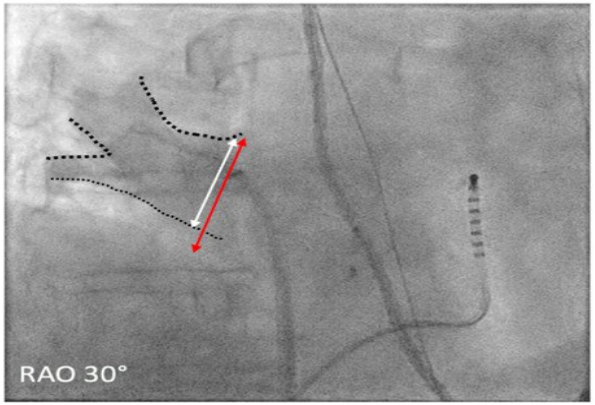
Occlusion tool Kodex-EPD

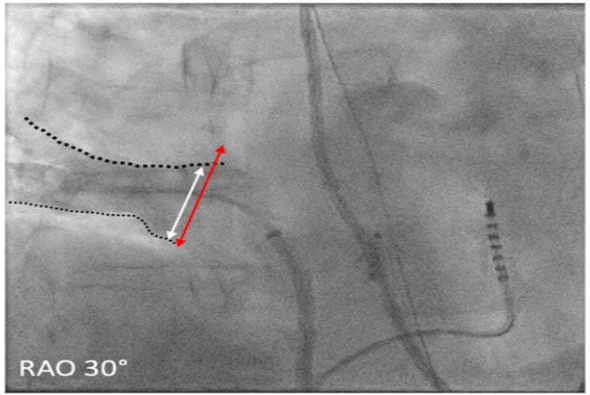


High anatomical accuracy of a novel high-resolution wide-band dielectric imaging system in cryoballoon-based ablation

High anatomical accuracy of a novel high-resolution wide-band dielectric imaging system in cryoballoon-based ablation







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Balloon Occlusion feature provides an assessment of PV occlusion without X-ray and can show the orientation of the leak.

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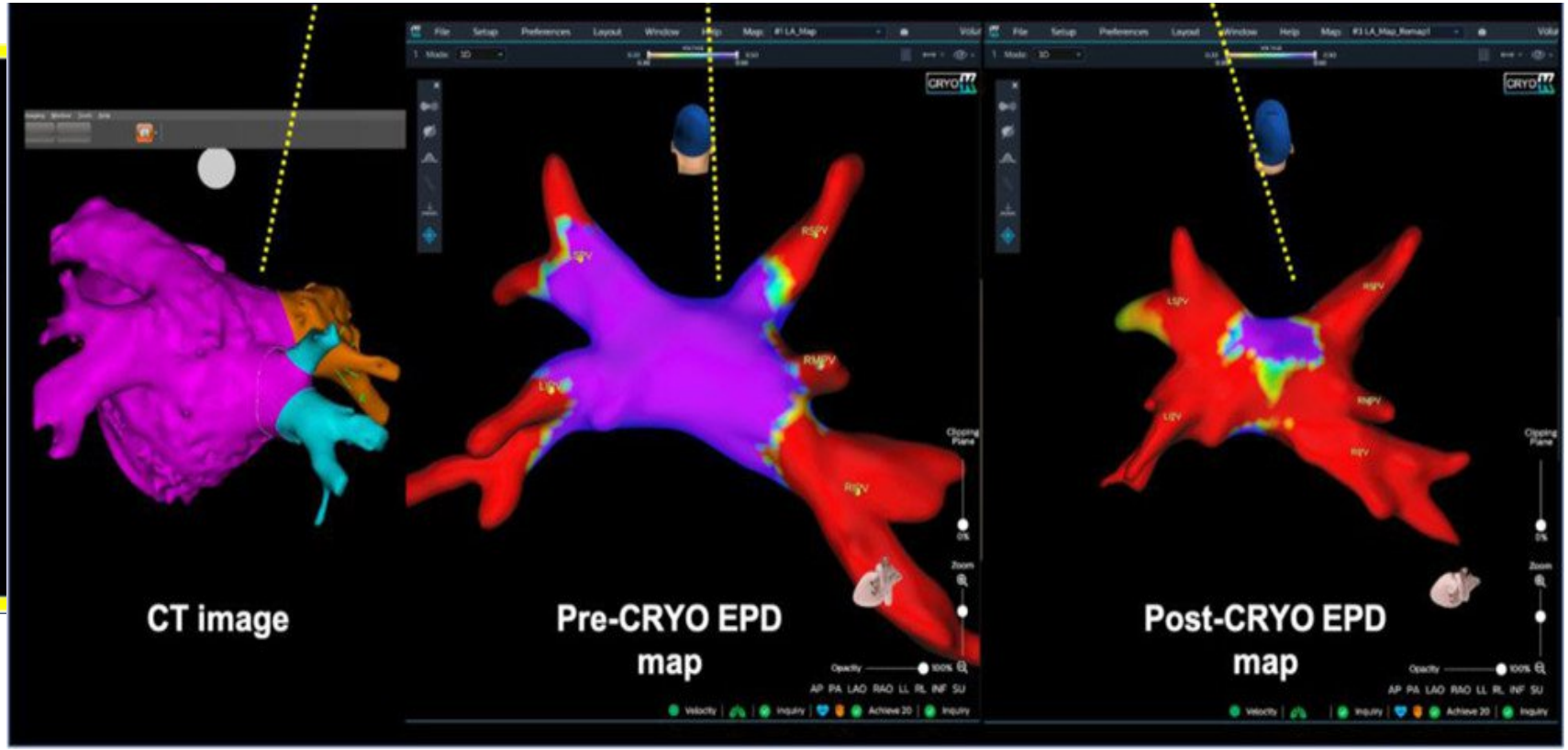
Anatomical accuracy of the KODEX-EPD novel 3D mapping system of the left atrium during pulmonary vein isolation: A correlation with computer tomography imaging



Our experience

Objective:

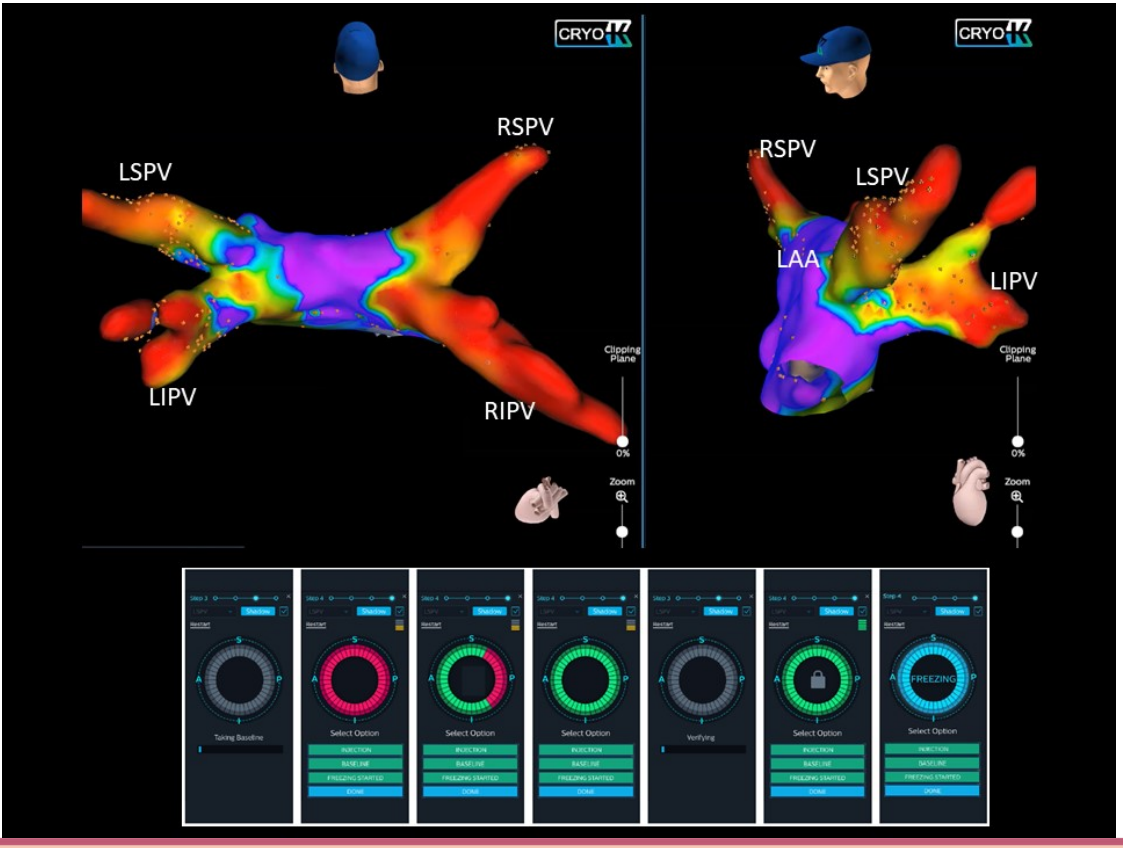
- The purpose of this study was to assess the success rate of cryoballoon PVI in AF patients by verifying circumferential PV occlusion with a dielectric sensing occlusion tool.

Methods:

- 22 consecutive patients undergoing cryobaloon ablation for paroxysmal AF at our centre were included in the analysis.

Numero	Genere	Età	Loop Recorder	FEVS media (%)	Volume Atrio Sx medio (ml/m2)	Mesi Prima insorgenza
22 (21 parox + 1 early pers.)	17 uomini (77%) 5 donne (23%)	59±11	20 (90%)	62±4	31±15	65±65

Methods:



The electroanatomical map of the left atrium was reconstructed with an octapolar mapping catheter (Achieve Advance 20 mm catheter, Medtronic Inc.), using the KODEX-EPD system.

Proper circumferential occlusion of the PV antra with the inflated cryoballoon (Arctic Front Advance) was verified with the dedicated dielectric sensing occlusion tool, without using iodinated dye injections.

Methods:

primary outcome

- AF recurrence assessed with:
  - 7 days-Holter monitoring (every 3-month)
  - continuous rhythm monitoring, when available

secondary outcomes

- Intraprocedural complications
- Periprocedural complications

Results:

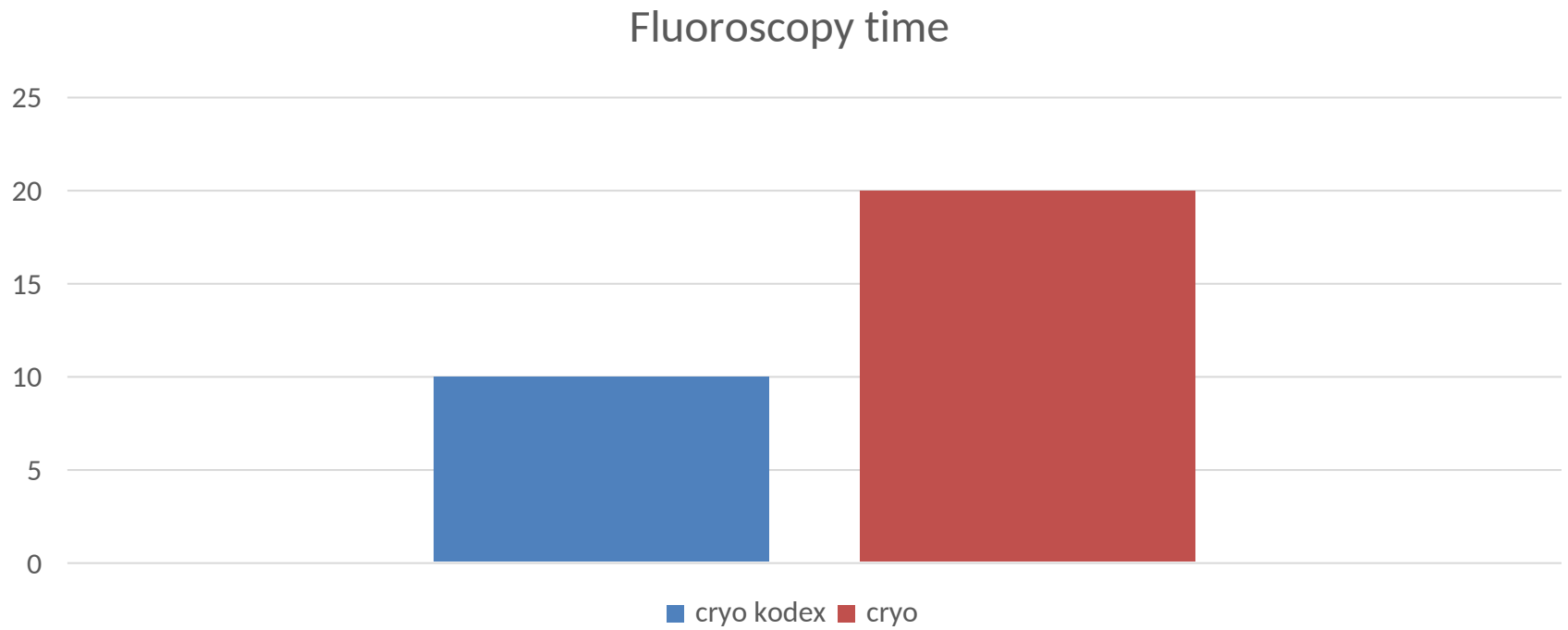
Tempo Procedurale (minuti)	Time to Effect Medio (s)	Totale Vene Trattate	Media Vene Trattate per paziente	Totale Erogazioni	Media Erogazioni per paziente	Rapporto Erogazioni/Vene Trattate
77±17	48±26	92	4±2	98	4±2	1.2

Results:

- After a follow-up of 12 months (86%) were free from recurrent AF episodes. There were no intra- or peri-procedural complications, and no iodinated dye injections were required to verify PV occlusion.

Monitoraggio Recidive	Burden di FA a 6 mesi	Burden di FA a 12 mesi
Loop Recorder	5%	1%
Loop Recorder	-	0,1 %
Holter	-	REDO

Results:



Conclusion:

- Our study confirms that a dedicated dielectric sensing occlusion tool may avoid the need to perform PV venography during cryobaloon ablation, with optimal survival free from recurrences at 12 months follow-up.

Future perspective

Bipolar voltage maps pre and post with Farapulse PFA ablation in combination with Kodex-EPD imaging system.